INDEX TO ILLUSTRATIONS

American Astronomical Society—
Bloomington, Indiana, June 18-21, 1950, Plate II and Key ..... Op. 313
Tucson, Arizona, December 28-31, 1949, Plate I and Key ..... Op. 1
Astronomical jades, Chinese, Forms of 223, 224, 227, 228, 229
Barnard, Edward E. and the 36-inch refractor 381
Birds, Diagrams related to direction of flight of 288, 290, 291, 292
Calibration curves after Adams and Joy, Mt. Wilson Contributions 244, 262.. 500
Campbell, Leon 41
Captain Floyd in 1876 220
Carnegie (and others) in Pasadena in 1910 106
Casino, The, First living quarters on Mount Wilson 65
Celestial map, Chinese 225
Comet 1950 *b*, Diagram of orbit of 363
Comet 1950 *b* (Minkowski) 417
Explosion of atoms in an emulsion plate, Effects of 188
Fireball of October 26, 1949, Map of region of 184
Graphic time table of the heavens ..... Op. 24
Hale, George Ellery, and spectrograph 109
Herstmonceux Castle, Hailsham, Sussex, England 479
Hydrogen lines, Explanation of unsymmetrical 16
Interferometer attached to the 18-inch refractor 336
Interferometer, Image of a single star given by the 337
Interferometer, Theory of double-star measurement with the 338
Interferometer tube with a slit screen in place 335
Kirkwood, Daniel, and Washington and Jefferson Observatory about 1900.... 117
Lens, Arrival of 36-inch on Mt. Hamilton 374, 375
Lick House in San Francisco in 1871 371
Lick medallion, Photograph of the James 203
Lick Observatory, First building of 216, 217
Lick Trust, Group photograph of staff of in 1886 219
Magnitudes and spectra from Mt. Wilson Contribution 142 498
Meteor, Charts of spectrum of a Perseid 134
Meteorite, The lost Port Orford 404
Meteorites, Drawing and photographs of 131, 132, 299, 301, 302
Meteorites, Photographs of certain features of 86, 87
Meteorograph built by Fr. Secchi for the Manila Observatory 155
Monastery on Mount Wilson, Group at (1905) 80
Mt. Hamilton, First buildings on top of (1881) 214
Nova in Scorpius, Haro's 395
Nova Lacertae, Mean light curve in 1950 of 139
Nova outburst, Schematic representation of phenomena accompanying a ...54, 56
Observatory of Agnes Scott College, Bradley 340
Pack train on Mount Wilson in 1904 73
Pole, The celestial, from 3000 B.C. to 2000 A.D. 224
Radio whistles, Diagrams depicting 178
R Cor Bor, Minimum of, in 1949 240
Reflector, Dome of 60-inch (Mt. Wilson 1908) 104

Road to Mt. Hamilton, Early 212
Schaeberle, John M. and the 36-inch lens 385
Smith Creek Hotel on road to Mt. Hamilton (1876) 211
Solar building near Herstmonceux Castle 480
Solar Union on Mount Wilson, International in 1910 (with key) 110
Spectra of several stars 160
Spectroscope, Secchi's composite 159
Spectrum-luminosity relation, Hertzsprung's 1907 date on 488
SS Cygni, Daily means in 1949 90
Stars, The circumpolar, 1000 B.C. 226
Sundial, Denver's Chinese 120
Telescope, Pier of Snow 72
Trigonometric criteria diagrams 351, 352, 353, 513
Truck for hauling material on mountain trails to Mount Wilson 72
Turner, H. H. and Mrs. Turner and Dr. Hall on Mt. Wilson in 1904..... 104
U Cephei, U Sagittae and other eclipsing systems, Schematic explanation of unsymmetrical lines in 15
U Sagittae, Unsymmetrical absorption lines of hydrogen in, Plate II.....Op. 8
Widmanstätten figures, Three photographs of 172
Z Camelopardalis, Light curve of from 1938 to 1950 359
Z Ursae Majoris from 1928 to 1950 307

GENERAL INDEX

Adams, Walter S., Early days at Mount Wilson 64, 97
Alexander Wilson, M.D., *Angus Armitage* 388
American Association of Variable Star Observers, Variable star notes from the, *Margaret W. Mayall*.....40, 90, 139, 191, 239, 305, 358, 413, 519
American Astronomical Society, The eighty-second meeting of the, *Curvin H. Gingrich* 1
American Astronomical Society, The eighty-third meeting of the, *C. M. Huffer* 313
Armitage, Angus, Alexander Wilson, M.D. 388
Asteroid notes, *Hugh S. Rice* 28, 83, 127, 231, 296, 342, 453, 502
Astronomer of eighteenth century Scotland, A university, *Angus Armitage*.. 388
Astronomer-poet of Persia, Omar Khayyam, The 242
Astronomers, Hereditary 418
Astronomers honored, Mt. Wilson and Palomar 364
Astronomers in California, Amateur 148
Astronomers, The Ohio neighborhood 94
Astronomical Association, The Peruvian 247
Astronomical Club, The new Toledo 246
Astronomical jades, Chinese, *Henri Michel* 222
Astronomical league convention program, Wellesley, Massachusetts, July 1-4, 1950 149
Astronomical pilgrimage, An 49
Astronomical Society, The Black River 49
Astronomical Society, The Cleveland 45, 94, 247, 249, 310, 473, 525, 526
Astronomical Society, The Rittenhouse 93, 148, 309, 472
Astronomischer Jahresbericht 45
Astronomy and astrophysics for the year 1951-1952, Contracts for research in 474
Astronomy at Washington and Jefferson College before 1900, *Raymond M. Bell* 115
Astronomy in Japan, Amateur 95
Atmospheric conditions, Recent peculiar, *H. B. Rumrill* and *Noah McLeod*.. 470
Beck, Carl W., The Albuquerque, Bernalillo County, New Mexico, siderite... 85
Bell, Raymond M., Astronomy at Washington and Jefferson College before 1900 115
Binaries, Spectroscopic, *Otto Struve* 7
Bird migration, Some notes on the astronomical method of studying, *William A. Rense* 287
Bok, Bart J., and *Margaret Olmsted*, The use of the Schmidt telescope in stellar photometry 257
Book reviews—
A Concise History of Astronomy, by Peter Doig 311
Anuario del Observatorio-Astronomico de Madrid para 1950 249
Astronomical Records in the Russian Chronicles from 1000 to 1600 A.D., by A. N. Vyssotsky 197
Astronomisch-Geodätisches Jahrbuch fur 1950 96
Astronomischer Jahresbericht 250
Astronomy, by Robert H. Baker 421
Astronomy Charted, by Ralph A. Wright 365

Book reviews (*continued*)—
Berliner Astronomisches Jahrbuch 420
Biography of the Earth, by George Gamow 367
Der Sternhimmel, by Robert E. Naef 197
From Euclid to Eddington, by Sir Edmund Whittaker, F.R.S. 47
Investigation of Structure and Development of Stellar Systems on the Basis of Studies of Variable Stars, by B. V. Kukarkin 253
Kleine Raketenkunde, by Hans K. Kaiser 251
Mappa Coelestis Nova, by V. Neubert 152
Measuring our Universe, by Oliver J. Lee 196
Meteoric Dust, by John Davis Buddhue 413
Our Sun, by Donald H. Menzel 198
Out of my Later Years, by Albert Einstein 366
Peremenniy Svesde (Variable Stars) by various Russian authors..... 250
Publications received 199
Reflections of a Physicist, P. W. Bridgman 367
Some Early Tools of American Science, by I. Bernhard Cohen 250
Starscope 252
Stellar Evolution, by Otto Struve 475
Tabellen zur Heliographischen Ortbestimmung 526
Tables for Solution of Light Curves of Eclipsing Binaries, by John E. Merrill 475
The Foundations of Arithmetic, by Gottlob Frege 420
The Science of Chance, by Horace C. Levinson 196
The Star Almanac for Land Surveyors, for the year 1951 474
Untersuchungen des Lichtwechsels von 70 unperiodischen Veränderlichen 365
Worlds in the Sky, by Fenton and Fenton 476
Zur Photometrie der Doppelsterne by Hans Kienle 96
Braun, William C., Haro's nova in Scorpius 395
Buddhue, John Davis, New chemical analyses of Canyon Diablo and Arispe siderites 190
Buddhue, John Davis, Synthetic schreibersite 405
Calder, William A., Bradley Observatory of Agnes Scott College 340
Capek, M., Three-hundred-fiftieth anniversary of the death of Giordano Bruno 248
Carolina Bays, Origin of, *William F. Prouty* 17
Chinese astronomical jades, *Henri Michel* 222
C.M.S., New prices of complete (back) volumes of 469
Comet notes, *Daniel L. Harris III* 43, 93, 141, 193, 241
Comet notes, *G. Van Biesbroeck* 308, 362, 416, 470, 523
Comet 1925 II (Schwassmann-Wachmann) 43, 142, 193, 241, 309
Comet 1928 I (Reinmuth) 43, 141
Comet 1939 IV (Väisälä) 43, 93, 141
Comet 1949 *a* (Johnson) 193, 241, 309
Comet 1949 *g* (Wilson-Harrington) 93
Comet 1950 *a* (d'Arrest) 141, 193, 241, 308, 363, 417, 470
Comet 1950 *b* (Minkowski) 362, 417, 523
Comet 1950 *c* (Wolf 1) 142, 416, 470
Comet 1950 *e* (Encke) 417, 470, 524
Committee appointments 191
Communications and comments 142, 242, 470
Cosmogony, Toward an understanding of, *Laban Lacy Rice* 244

Cranmer, George E., Denver's Chinese sundial 119
Crater of Quebec, Canada, The ECN of the Chubb 469
Double-star research, Some contributions of the interferometer to, *Raymond H. Wilson, Jr.* 334
Earth, How Paul Bunyan departed the 147
Earth's core, On the nature of the 89
Eclipse lists in the Alphonsine tables, *William D. Morgan* 173
Farnsworth, Alice H., Summary of sunspot observations at Mount Holyoke College, 1949 95
Fireball of October 4, 1950 472
Fire from heaven, *C. C. Wylie* 466
Galle correspondence for sale 364
General notes.....43, 93, 148, 194, 246, 309, 363, 418, 472, 524
Gingrich, Curvin H., The eighty-second meeting of the American Astronomical Society 1
Giordano Bruno, Three-hundred-fiftieth anniversary of the death of, *M. Capek* 248
Green Ray, The 419
Grindrod, J., Schmidt correction plates 122
Haas, Walter H., Recent designation of lunar formations 472
Hammond, Charles R., The chemical composition and some physical characteristics of tektites 345
Harris, Daniel L., III, Comet notes 43, 93, 141, 193, 241
Herstmonceux, The new Royal Greenwich Observatory at, *Sir Harold Spencer Jones* 479
History of the Lick Observatory, A short, *F. J. Neubauer* 201, 318, 369
Hoffleit, Dorrit, Daytime meteors of August 7, 1869 407
Hoffleit, Dorrit, The discovery and exploitation of spectroscopic parallaxes 428, 483
Huffer, C. M., The eighty-third meeting of the American Astronomical Society 313
Imaginary conversations, *Laban Lacy Rice* 142
Impact, Some observations on high-speed, *John S. Rinehart* 458
Jones, Sir Harold Spencer, The new Royal Greenwich Observatory at Herstmonceux 479
Joy, Dr. Alfred H., receives Bruce gold medal 194
King, Arthur S., The report of the retiring president of The Meteoritical Society 504
Krinov, E. L., Some characteristic features of the Sikhota-Alin iron-meteorite 298
Laboratory at Pomona College, The Frank R. Seaver 45
La Paz, Lincoln, A possibly meteoritic dust-cloud 355
La Paz, Lincoln, A preliminary report on Indian ruins discovered near the crest of the Barringer meteorite crater 400
La Paz, Lincoln, The Albuquerque, Bernalillo County, New Mexico, siderite 85
La Paz, Lincoln, The possible preservation in concretions of traces of ancient meteorites 35
Leonard, Frederick C., A proposed curriculum in meteoritics for college students 409
Leonard, Frederick C., Contributions of the Meteoritical Society.....
.....35, 85, 134, 186, 236, 298, 345, 400, 458, 504
Leonard, Frederick C., Meteoritical great-circle problems 510
Leonard, Frederick C., On the identification and recovery of the Goose Lake, California, siderite 516

Leonard, Frederick C., Trigonometric criteria for determining whether meteoritic falls lie on the same great circle 350
Lunar formations, Recent designations of, *Walter H. Haas* 472

McCarthy, Martin F., S.J., Fr. Secchi and stellar spectra 153
McLaughlin, Dean B., A model of a nova outburst 50
Mach numbers 0.5 to 3.5, Air drag on cubes at, *John S. Rinehart* and *George E. Hansche* 467
Mars and Saturn, Close approach of, observed 44
Mayall, Margaret W., Variable star notes from the American Association of Variable Star Observers 40, 90, 139, 191, 239, 305, 358, 413, 519
Medal awarded to Dr. Fred L. Whipple, The J. Lawrence Smith 40
Meteor, Intensity variations in the spectrum of a Perseid, *John A. Russell*... 134
Meteor, meteorite, Use of, in astronomy cleared up 39
Meteor notes from the American Meteor Society, *Charles P. Olivier*.....
.....30, 128, 181, 233, 397, 454
Meteor or meteoric cloud, *C. C. Wylie* 465
Meteorite crater, Indian ruins discovered near the crest of the Barringer, *Lincoln La Paz* 400
Meteorite crater in Quebec, Canada, A recently discovered possible 410
Meteorite crater of Arizona, The name of the Barringer 469
Meteorite shower, Some characteristic features of the Sikhota-Alin iron-, *E. L. Krinov* 298
Meteorite, The discovery of an additional Sams Valley, Oregon, *Russell A. Morley* 236
Meteorite, The lost Port Orford, Oregon, *J. Hugh Pruett* 402
Meteorites, A symposium on, May 2, 1950 304
Meteorites, Structure and composition of Canyon Diablo, *H. H. Nininger*.... 169
Meteorites, The effect of cosmic rays on, *Hildegarde Stücklen* 186
Meteorites, The Nininger collection of, *H. H. Nininger* 267
Meteorites, The possible preservation in concretions of traces of ancient, *Lincoln La Paz* 35
Meteoritic astronomy and work on meteoritic dust in Canada, Graduate work in 357
Meteoritic dust-cloud, A possibly, *Lincoln La Paz* 355
Meteoritic fall at Sikhote-Alinsk, U.S.S.R., The 40
Meteoritic falls lie on the same great circle, Trigonometric criteria for determing whether, *Frederick C. Leonard* 350
Meteoritical great-circle problems, *Frederick C. Leonard* 510
Meteoritical Society, An invitation to members of the, to visit the Canyon Diablo, Arizona, meteorite crater 357
Meteoritical Society, Appointments in the, for the 1950-54 term 468
Meteoritical Society, Contribution of the, *Frederick C. Leonard* .....
.....35, 85, 134, 186, 236, 298, 345, 400, 458, 504
Meteoritical Society, Election to fellowship in the 304
Meteoritical Society, Notice of the 13th meeting of the 303, 358
Meteoritical Society, Report on the thirteenth meeting of the, *John A. Russell* 507
Meteoritical Society, The council of the, for the 1950-54 term 412
Meteoritics at the University of New Mexico, Graduate work in..... 238
Meteoritics for College students, A proposed curriculum in, *Frederick C. Leonard* 409
Meteoritics, Why study 411

Meteors and meteorites.....30, 85, 128, 181, 233, 298, 345, 397, 454, 504
Meteors of August 7, 1869, Daytime, *Dorrit Hoffleit* 407
Michel, Henri, Chinese astronomical jades 222
Minor planets, On the total mass and numbers of the, *C. H. Schuette* 438
Moore, Walter L., Fun with a solar globe..... 125
Morgan, William D., Eclipse lists in the Alphonsine tables 173
Morley, Russell A., The discovery of an additional Sams Valley, Oregon, meteorite 236
Mount Wilson, Early days at, *Walter S. Adams* 64, 97
National Academy of Sciences, The J. Lawrence Smith medal of the..... 190
Neubauer, F. J., A short history of the Lick Observatory 201, 318, 369
Newton Lacy Pierce, 1905-1950, *Lyman Spitzer, Jr.* 425
Nininger, H. H., Structure and composition of Canyon Diablo meteorites as related to zonal distribution of fragments 169
Nininger, H. H., The Nininger collection of meteorites 267
Nova in Scorpius, Haro's, *William C. Braun* 395
Nova outburst, A model of a, *Dean B. McLaughlin* 50
Observatory at Herstmonceux, The new Royal Greenwich, *Sir Harold Spencer Jones* 479
Observatory, A short history of the Lick, *F. J. Neubauer* 201, 318, 369
Observatory, Notes from the Yerkes 150
Observatory of Agnes Scott College, Bradley, *William A. Calder* 340
Observatory, The Flower 148
Occultation predictions.....29, 83, 128, 180, 232, 297, 343, 396, 454, 503
Olivier, Charles P., Meteor notes from the American Meteor Society..... .....30, 128, 181, 233, 397, 454
Olmsted, Margaret, and *Bart J. Bok,* The use of the Schmidt telescope in stellar photometry 257
Omar Khayyam, The astronomer-poet of Persia 242
Parallaxes, The discovery and exploitation of spectroscopic, *Dorrit Hoffleit* 428, 483
Payne-Gaposchkin, Cecilia, Worlds in Collision 278
Personal notices.....43, 93, 148, 246, 309, 363, 418, 472, 524
Pierce, Newton Lacy, 1905-1950, *Lyman Spitzer, Jr.* 425
Planetarium installation, An unusual 195
Planetary phenomena in 1950, *Paul S. Watson* 21
Planet notes, *Raymond H. Wilson, Jr.*...27, 82, 126, 180, 230, 295, 341, 396, 452, 501
Poems, Peace; In Infinity 423
Popular Astronomy in a new role 310
Prouty, William F., Origin of Carolina Bays 17
Pruett, J. Hugh, The lost Port Orford, Oregon, meteorite 402
Questions, Mr. Chapman Grant raises some 147
Radio whistles, Sidney van den Bergh 177
Relativity, The time-coordinate transformation of, derived from aberration, *Paul E. Wylie* 451
Rense, William A., Some notes on the astronomical method of studying bird migration 287
Report of the retiring president of the Meteoritical Society, *Arthur S. King* 504
Rice, Hugh S., Asteroid notes.....28, 83, 127, 231, 296, 342, 453, 502
Rice, Laban Lacy, Imaginary conversations 142
Rice, Laban Lacy, Toward an understanding of cosmogony 244

Rinehart, John S., and *George E. Hansche*, Air drag on cubes at Mach numbers 0.5 to 3.5 467
Rinehart, John S., Some observations on high-speed impact 458
Rumrill, H. B., and *Noah McLeod*, Recent peculiar atmospheric conditions... 470
Russell, John A., Intensity variations in the spectrum of a Perseid meteor.... 134
Russell, John A., Report on the thirteenth meeting of the Society..... 507
Russian publications, English abstracts of 247
Schmidt correction plates, *J. Grindrod* 122
Schmidt telescope in stellar photometry, The use of the, *Bart J. Bok* and *Margaret Olmsted* 257
Schreibersite, Synthetic, *John Davis Buddhue* 405
Schuette, C. H., On the total mass and number of the minor planets 438
Science, The institute for the unity of 94
Siderite, On the identification and the reccovery of the Goose Lake, California, *Frederick C. Leonard* 516
Siderite, The Albuquerque, Bernalillo County, New Mexico, *Carl W. Beck* and *Lincoln La Paz* 85
Siderites, New chemical analyses of, *John Davis Buddhue* 190
Solar globe, Fun with a, *Walter L. Moore* 125
Solar system theories presented 44
Spectra, Fr. Secchi and stellar, *Martin F. McCarthy, S.J.* 153
Spectroscopic binaries, *Otto Struve* 7
Spectroscopic parallaxes, The discovery and exploitation of, *Dorrit Hoffleit* 428, 483
Spitzer, Lyman, Jr., Newton Lacy Pierce 1905-1950 425
Stellar spectra, Fr. Secchi and, *Martin F. McCarthy, S.J.* 153
Struve, Otto, Spectroscopic binaries 7
Stücklen, Hildegarde, The effect of cosmic rays on meteorites 186
Sundial, Denver's Chinese, George E. Cranmer 119
Sunspot numbers, Provisional relative 45, 93, 149, 195, 247, 310, 365, 418, 472, 524
Sunspot observations at Mount Holyoke College, 1949, Summary of, *Alice H. Farnsworth* 95
Tektites, A note on the origin of 578
Tektites, The chemical composition and some physical characteristics of, *Charles R. Hammond* 345
Telescope, Dome being built for new Lick Observatory 149
Telescope, The Hale, in operation 46
Thomas Wright of Durham, Bi-centenary of 310
Van Biesbroeck, G., Comet notes 308, 362, 416, 470, 523
van den Bergh, Sidney, Radio whistles 177
Variable star notes from the American Association of Variable Star Observers, *Margaret W. Mayall*.....40, 90, 139, 191, 239, 305, 358, 413, 519
Variables, List of new 247
Watson, Paul S., Planetary phenomena in 1950 21
Wilson, Raymond H., Jr., Planet notes..27, 82, 126, 180, 230, 295, 341, 396, 452, 501
Wilson, Raymond H., Jr., Some contributions of the interferometer of double-star research 334
Worlds in Collision, *Cecilia Payne-Gaposchkin* 278
Wylie, C. C., Meteor or meteoric cloud? 465
Wylie, C. C., Fire from heaven 466
Wylie, Paul E., The time-coordinate transformation of relativity derived from the circumstances of the aberration of starlight 451